

ATTACHMENT A
Remarks

Claims 1-10 are pending in the present application. In accordance with the Examiner Interview of August 8, 2006, by this Amendment, Applicants have amended claim 1 in a manner considered acceptable by the Examiner. Applicants respectfully submit that upon entrance of the amendment, the present application will be placed in condition for allowance based on the discussion which follows.

In the outstanding Office Action, claims 1-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Marasco et al. (WO 00/55335) (hereinafter "Marasco") in view of Schlapp et al. (EP 1170367) (hereinafter "Schlapp") and Lai et al. (J. Virology, 2000) (hereinafter "Lai").

Contrary to the prior art rejection, the present invention would not have been obvious to one of ordinary skill in the art, as one of ordinary skill in the art would not be motivated to select various aspects from the cited references and recombine them to form the presently claimed method. Furthermore, the aforementioned references fail to provide any motivation for one of ordinary skill in the art to combine their various teachings to make the claimed method obvious.

The present invention is directed to transfecting a host cell with three recited nucleic acid sequences, which results in a pestivirus-like particle which does not include the core protein (c-protein). Although the c-protein is cleaved from natural pestiviruses, in natural pestiviruses the c-protein is present in the pestivirus-like particles. Not being locked into one explanation as to why the present method results in the removal of the c-protein from the pestivirus particles, one possible explanation may be that the core protein is absent from the pestivirus-like particles due to a preferential association of the

retroviral capsid proteins in forming the pestivirus-like particles' capsid, thereby excluding the pestivirus core protein.

One point of novelty of the present invention lies in the discovery that the recited three nucleic acid sequences produce pestivirus-like particles which do not include the core protein. The cited prior art references fail to teach or suggest a method of using, in combination, the claimed three nucleic acid sequences, let alone that their combination would result in the absence of the c-protein from the pestivirus-like particles. Therefore, one of ordinary skill in the art would not be motivated to combine the aforementioned references to select the claimed three nucleic acid sequences.

To the contrary, Marasco suggests that the *env* gene of its system encodes a viral envelope protein of a pestivirus. However, it is never suggested that another pestivirus gene, e.g., a gene encoding the core protein, could also be added to its system. In particular, no information is provided as to where a pestivirus gene, other than a pestivirus gene encoding a viral envelope protein, could be localized in Marasco's system. As such, Marasco provides absolutely no incentive to use a pestivirus core gene in its system.

Furthermore, nowhere in Schlapp is it mentioned that the *N* gene of the BVDV virus (which corresponds to the core gene of the invention) is indispensable for the expression of the envelope proteins. Therefore, Schlapp provides absolutely no incentive to use a core gene in Marasco's system. In view of Schlapp, it is only hindsight analysis which enables one to make use of this otherwise unknown property of the core gene.

Moreover, one of ordinary skill in the art, who did not know at the time the invention was made that the core protein would be absent from the final pestivirus-like particles, would have refrained from using a pestivirus core gene in Marasco's system because one would have anticipated that both the retroviral and pestivirus capsid proteins would associate to produce ill-characterized and questionably functional pseudoparticles.

Finally, Lai teaches that Npro is self-cleaved from the polyprotein of NVDV and that the c-protein is cleaved from the rest of the polyprotein as processed by a cellular protease. (See Lai, page 6, lines 10-13 and Abstract.) Lai does not teach or suggest that the c-protein would not be associated with the pestivirus-like particles. Therefore, Lai fails to suggest in any way that the present method which uses the recited three nucleic acid sequences would result in a pestivirus-like particle would not contain the core protein. Consequently, Lai, in combination with Marasco and Schlapp, fails to motivation one of ordinary skill in the art to combine the separately disclosed nucleic acid sequences, to make the present method obvious.

Based on the foregoing, Applicants respectfully submit that claims 1-8 are not obvious under 35 U.S.C. § 103(a) in view of the aforementioned references.

In view of the foregoing, Applicants respectfully submit that upon entrance of the present amendment, the present application will be placed in condition for allowance, and such action is respectfully requested.

END REMARKS